

LOCAL HAZARD MITIGATION PLAN ANNEX

CITY OF PACIFICA

Introduction

The City of Pacifica is a moderately sized city located in San Mateo County, California. The City is framed by the ridges of the Coast Range on the east and the Pacific Ocean on the west. Pacifica is located on the Pacific coast side of the San Francisco Peninsula, three miles south of San Francisco.

Pacifica has a population of 38,390 persons living within its 12.2 square miles, based on the 2000 census. The Association of Bay Area Governments (ABAG) has estimated Pacifica's future population growth in its publication "Projections 2000". The city's population is expected to increase about fifteen percent (15%) from 2000 through the year 2020.

Pacifica is predominantly a single-family residential community. Seventy-seven percent (77%) of its housing units are single family. Multi-family units make up approximately 22% of all housing units, and mobile homes make up less than 1%. Typically, two hundred sixty-six (266) of the City's 4,393 rental units are available for rent (1.9% vacancy rate). According to the 2000 Census, 35.1% of Pacifica's housing stock was constructed before 1960. Another 31.1% was built between 1960 and 1969.

The FY 2004/2005 budget is \$43,311,899. The city employs 291 people to deliver the full range of municipal services.

The Planning Process

The City of Pacifica is familiar with the planning process and participates in a variety of local and regional training and planning efforts. City staff has attended FEMA's Integrated Emergency Management Course (All Hazards), as well as Office of Domestic Preparedness' Risk and Vulnerability Assessment Course. Representatives of the Police and Fire Departments also participated in development of the San Mateo County Operational Area evaluation of critical facilities located within San Mateo County.

The City has a safety element to its General Plan that includes discussion of fire, earthquake, flooding and landslide hazards. This was last updated in 2001. In addition the City routinely enforces the requirements of the California Environmental Quality Act (CEQA), which requires mitigation of identified natural hazards, as well the current versions of the fire and building codes as adopted by the State of California.

City staff has been active participants in the ABAG multi-jurisdictional planning process, attending a variety of FEMA, ABAG, OES workshops and meetings. The City has provided information on facilities deemed “critical” to ABAG.

Key City staff from the Police, Fire, Planning, Public Works, and Engineering Departments has formed the Hazard Mitigation Plan Task Force. The task force has met on six occasions to identify, evaluate, and prioritize mitigation strategies appropriate for the City of Pacifica. These meetings occurred on October 14, 2004, January 18, 2005, February 1st, February 23rd, March 31st, and May 17, 2005. The group worked to document mitigation strategies already in place, and to identify potential funding sources for strategies designated as “High” priority. City staff have reviewed each phase of the multi-jurisdictional plan and provided comments to ABAG. In addition, Pacifica School District and North Coast County Water District staff was apprised of our progress during meetings on March 31, 2005.

The work of the Task Force was monitored by the City Manager through monthly status reports from the project manager. The draft mitigation strategies were reviewed by the City Manager in February 2005.

The City Council was first apprised of the local hazard mitigation planning process and requirements at the City Council meeting on July 12, 2004. The City provided the opportunity for public comment on the draft mitigation strategies selected by city staff

Hazard and Risk Assessment

While the City has undertaken a number of hazard mapping activities since the first Safety element was prepared by the City, all of these maps are less detailed and are not as current as those shown on the ABAG website at <http://quake.abag.ca.gov/mitigation/>

The City examined the hazard exposure of City urban land, infrastructure, and critical facilities based on the information on ABAG’s website at <http://quake.abag.ca.gov/mitigation/pickdbh2.html>. The ABAG multi-jurisdictional Local Hazard Mitigation Plan, to which this is an Annex, lists nine hazards that impact the Bay Area, five related to earthquakes (faulting, shaking, earthquake-induced landslides, liquefaction, and tsunamis) and four related to weather (flooding, landslides, wildfires, and drought). These hazards also impact the City of Pacifica.

Seismic:

The City of Pacifica is located directly adjacent to the San Andreas Fault. All of Pacifica would be affected by earthquake shaking. Portions of Pacifica are underlain by relatively clean, poorly consolidated granular material, such as sand. In places there are perched layers of groundwater so that conditions may exist for liquefaction. Also, where materials are poorly consolidated, there may be ground subsidence or other forms of ground failure. There is a potential for ground surface rupture in certain neighborhoods.

A fault rupture hazard exists in the zone that extends through the Fairmont and Westview districts. There are approximately 952 single-family homes and 399 multiple-family units within the Alquist-Priolo Study Zone.

The City examined the hazard exposure of City urban land based on information on ABAG's website at <http://quake.abag.ca.gov/mitigation/pickdbh2.html>. Of the 4212 acres in the City:

- 200 acres and 6 miles of road are within the California Geological Survey Alquist-Priolo Study Zone for fault rupture.
- 4031 acres are in the two highest earthquake shaking potential categories.
- 115 miles of roadway are in the highest two shaking potential categories.
- 440 acres of commercial properties are located in the top two categories.
- 733 acres are in the two highest categories of liquefaction susceptibility.
- 24 miles of roadway are located in the two highest categories of liquefaction susceptibility.

The main tsunami danger is from major earthquakes within the Pacific Ocean rather than local earthquakes. The tsunami hazard presents a risk to structures and individuals within the area. Based on an approximate wave run-up height of 42 feet, there are approximately 900 existing dwelling units within Pacifica's tsunami run-up area. In addition to the dwellings, some important community services and facilities are within the run-up area: two schools, a convalescent home, shopping center, City Council Chambers, and library. Significant property damage could occur within the areas indicated on the flood hazard maps.

Hillside Erosion and Landslides:

The main geotechnical hazards to the Pacifica area are hillside erosion, coastal erosion, earthquake shaking and ground shaking. Landslides and slope failures can result from all of the listed hazards and have been serious problems in Pacifica.

The City has experienced a number of landslides in the hills to the east of the City. Exceptionally heavy rainfall in early January 1982 triggered hundreds of slope failures. The slope failures caused three deaths, total destruction to four homes, damage to tens of others and potential life-threatening situations for at least 500 families living at the foot of steep hillsides.

It is recognized that rainfall is the triggering mechanism for the majority of slides. Annual winter storms have increased public awareness that erosion of hillsides is an ongoing process which can become a serious local hazard.

The City has also examined the hazard exposure of City urban land based on information on ABAG's website at <http://quake.abag.ca.gov/mitigation/pickdbh2.html>. Of the 4212 acres in the City:

- 106 acres are classified as mostly landslide area.

- 45 acres of residential property are located in areas classified as mostly landslide area.
- 37 acres of infrastructure are located in areas classified as mostly landslide area.
- 4 miles of roads are in areas classified as mostly landslide area.
- There are no critical facilities located in mostly landslide areas.

The California Geologic Survey has not yet mapped earthquake induced landslide potential for San Mateo County. However the City has committed to support and assist these efforts in our mitigation strategies. Specifically land use mitigation strategy Land-a-5.

Coastal Erosion:

The ongoing force of the Pacific Ocean constantly wears away at the Pacific coastline. The predominate erosion pattern along the shores of the City is the progressive undercutting of the bluff by wave action in combination with sloughing off of large chunks along the top of the bluffs due to saturation by water.

Major erosion of the beach, bluffs and sea cliffs occur during ocean storm conditions. Pacific storms during the winters of 1983 and 1998 caused unusually high tides and severe erosion, tidal damage and flooding. In 1983 as much as 75 feet of bluff top was lost along the steep bluffs between Shoreview Avenue and Manor Drive. Mobil homes were moved and houses on top of the bluffs were threatened. In 1998 an entire block of homes along Esplanade Avenue were lost.

Flooding:

The risk of flooding is highest during and after intense storms. High tides contribute to flooding in low-lying areas. Areas prone to flooding have been delineated by the Department of Housing and Urban Development (HUD). These areas are subject to special regulation for federal flood insurance purposes.

The City examined the hazard exposure of City urban land based on ABAG's website <http://quake.abag.ca.gov/mitigation/pickdbh2.html>. Of the 4212 acres in the City:

- 119 acres are in the 500 year flood-plain and 159 acres are in the 100-year flood plain.
- 3 miles of roadway are in the 500-year flood plain and 6 miles are in the 100-year flood plain.
- There are no critical facilities located in the 500-year flood plain.
- 1 critical facility, the wastewater treatment plant, is located in the 100-year flood plain.

There are approximately 990 dwelling units and ten acres of commercial areas located within the designated flood zones. Approximately half of the areas prone to flooding are in the 100-year flood boundary and the other half are in the 500-year flood boundary. The lower Linda Mar area, including the residences between DeSolo Drive and Anza Drive, and the Linda Mar shopping Center, has historically been subject to flooding at a rate of between five and ten years. Minor flooding has mainly consisted of streets, parking areas and yards. Major flooding, 3 feet above the finished floor elevations in recent history has occurred in 1953, 1962, 1972, and 1982.

There are two properties outside of the flood plain that have experienced flood losses. These resulted in five claims totaling \$96,813.00. One of the property claims appears to be the result of coastal erosion along Esplanade Avenue, while the other from hillside slumping.

Fire:

The City of Pacifica is bordered by open space belonging to the Golden Gate National Recreation Area. The fire problem in this urban/wildland interface is exacerbated by the steep terrain of the City, narrow streets, and extended response times to some areas of the City. However, in most cases, response time is within the acceptable range of six minutes, fifty-nine seconds.

Generally the water supply and storage capacity are adequate for firefighting. The Fire Department's ISO rating is 4, however the department was reevaluated by ISO in 2004, and is expecting the rating to improve as a result of improved dispatching, automatic aid agreements, and increased on-scene staffing at emergency scenes.

The City has also examined the hazard exposure of the City urban land based on the information on ABAG's website at <http://quake.abag.ca.gov/mitigation/pickdbh2.html>. Of 4212 urban acres in the City:

- 256 acres are classified as high hazard
- 131 acres are classified as very high hazard.
- 7 miles of road way are located in high and very high threat areas.
- 79 acres of forest land adjacent to the City is classified as high hazard area, and 92 acres are located in areas classified as very high hazard.
- There are no critical facilities located in areas classified as high or very high hazard.
- There are no areas of the City classified as extreme hazard

Drought:

Though a potential problem in the City of Pacifica, drought impact is not fully assessed. The City will be working with ABAG and the various water supply agencies.

Impact Data:

Data summarizing each hazard's impact on the City of Pacifica is not fully developed at this time. However City staff will work during 2005 and 2006 with ABAG in developing the information as described in ABAG's Annex.

The city plans to work with ABAG during 2005 to improve the risk assessment information being compiled by ABAG by providing information on unreinforced masonry buildings and soft story apartments located in the City.

As these hazards are not fully developed, City staff has reviewed the expected future impacts and reached the conclusion that earthquakes (ground shaking, liquefaction, and landslide) and winter storms (landslide, coastal erosion, flooding) pose the most immediate threat to the City of Pacifica and are considered our highest mitigation priorities, followed by fire, drought, and tsunamis.

Mitigation Activities and Priorities

As a participant of the ABAG multi-jurisdictional planning process, City of Pacifica staff helped in the development and review of the comprehensive list of mitigation strategies in the overall multi-jurisdictional plan. The list was reviewed by the City Police Chief, Building Official, Public Works Director, Planning Director, and Fire Chief prior to review by the City Manager.

At that staff meeting, all of the mitigation strategies were reviewed. The tentative decision on priority was made based on a variety of criteria, not simply on an economic costs-benefit analysis. These criteria include being technically and administratively feasible, politically acceptable, socially appropriate, legal, economically sound and not harmful to the environment or our heritage.

Over time we are committed to developing better hazard and risk information to use in making those trade-offs. We are not trying to create a disaster-proof region, but a disaster-resistant one. In addition, several of the strategies are existing City Programs.

Following review and approval by the City Manager, the draft priorities were then provided to the City Council on September 12, 2005. The public was provided with an opportunity to comment on the DRAFT priorities. The following strategies will become an Implementation Appendix to the city's Safety Element.

Many of the strategies are existing programs and policies already a part of the City's planning process through plan and project review, building and fire code enforcement and development of the City's General Plan. New activities identified, as part of this Annex will be incorporated into these existing mechanisms. Other activities will require funds that have not been identified. The City will be working to identify potential

funding sources, including capital improvement budgets, bond issues, and federal or state grants.

Plan Monitoring, Evaluation and Updating Process

The City Manager will ensure that monitoring of this Annex will occur. The plan will be monitored on an on-going basis. However, major disasters affecting our community, legal changes, notices from ABAG, as the lead agency in this process, and other triggers will be used. Finally, the Annex will be a discussion item on the agenda of the meeting of City department heads at least once a year in April. At that meeting, the department heads will focus on evaluating the Annex in light of technological and political changes during the past year or other significant events. This group will be responsible for determining if the plan should be updated based on new or changing conditions.

The public will continue to be involved whenever the plan is updated and as appropriate during the monitoring and review process. These efforts will be coordinated with the school district and the water district and their input will be sought. The revisions to the plan will be reviewed in public session, and community input sought by the City Council. All public comments will be considered and publicly initiated changes will be integrated into the plan updates whenever appropriate, prior to City Council approval of the revisions.

The City of Pacifica is committed to reviewing and updating this plan annex at least once every five years, as required by the Disaster Mitigation Act of 2000. The City Planning Director will contact ABAG four years after this plan is approved to ensure that ABAG plans to undertake the plan update process. If so, the City again plans to participate in the multi-jurisdictional plan. If ABAG is unwilling or unable to act as the lead agency in the multi-jurisdictional effort, other agencies will be contacted, including the San Mateo County's Office of Emergency services. We would then support Counties working together to identify another forum for developing a multi-jurisdictional plan.